**INSTITUT D'ENSEIGNEMENT SUPÉRIEUR
DE RUHENGERI**

FACULTY: FUNDAMENTAL APPLIED SCIENCE
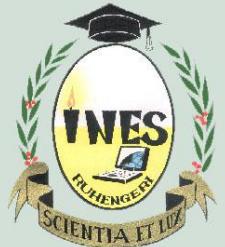
DEPARTEMENT: STATISTICS APPLIED TO ECONOMY

LEVEL: YEAR V

DAY PROGRAM

**CONTRIBUTION OF GIRINKA PROGRAM IN SOCIAL
ECONOMIC DEVELOPMENT
CASE STUDY: NYAMIRAMBO SECTOR**

DONE BY: NIWEMUGENI Alphonsine

Supervisor: Mr. NGABO MANIRAGABA Vallence

Musanze, 2013

Scientia et Lux

B.P. 155
Ruhengeri
Rwanda

CHAPTER ONE: INTRODUCTION

1.0 General Introduction

Rwanda is a landlocked country with thousand hills, a country with limited natural resources. With an average of 416 persons per square Km (from the provisional results of 4th census), Rwanda is the most densely populated nation in the continent. The isolation (living with no access to the sea) of our country, lack of natural resources and overpopulation, are some of the main problems which are the causes of poverty in Rwanda. But like other developing countries Rwanda is also under pressure to produce more food for its growing population, to conserve its natural resources, and to reduce poverty.

Rwanda remains one of the poorest countries in the world with poverty concentrated in rural areas. In 2006, 90 per cent of poor people in Rwanda lived in rural areas and just over 60 per cent of the rural populations were poor.

Girinka is one of a number of programs that fall under Rwanda's Vision 2020 and EDPRS, the programs that the Government has introduced to improve the incomes of those living in rural areas, a set of development objectives and goals designed to move Rwanda to a middle income nation by the year 2020. Selected poor households that are considered to have the capacity are given a cow.

The word Girinka can be translated as 'may you have a cow' and describes a centuries old cultural practice in Rwanda whereby a cow was given by one person to another, either as a sign of respect and gratitude, Girinka come under the cultural practice known as" **Kugabira**," such an act is often done as a sign of appreciation, expressing gratitude for a good deed or to establish a friendship from which Girinka is derived.

The One Cow Per poor Family program (Girinka) was started by President Paul Kagame after seeing that a big number of Rwandese are the poor and the children under the age of 5 years were malnourished. The program was adopted by the Cabinet meeting of 12/04/2006.

The program aims at giving a cow to a poor family to quickly move out of poverty and fight malnutrition by getting milk to drink and selling the rest to obtain cash income. In addition, the manure from the cow is used to improve soil fertility to increase crop production.

Rwanda has had an impressive record in translating its recent growth into poverty reduction across the country over the past five years; the results show a reduction in poverty at the national level by 12 percentage points between 2005/06 and 2010/11. This is a significant reduction over a five-year period. The findings contrast with the limited poverty reduction.

By July 2013, over 148,000 beneficiaries had received a cow.
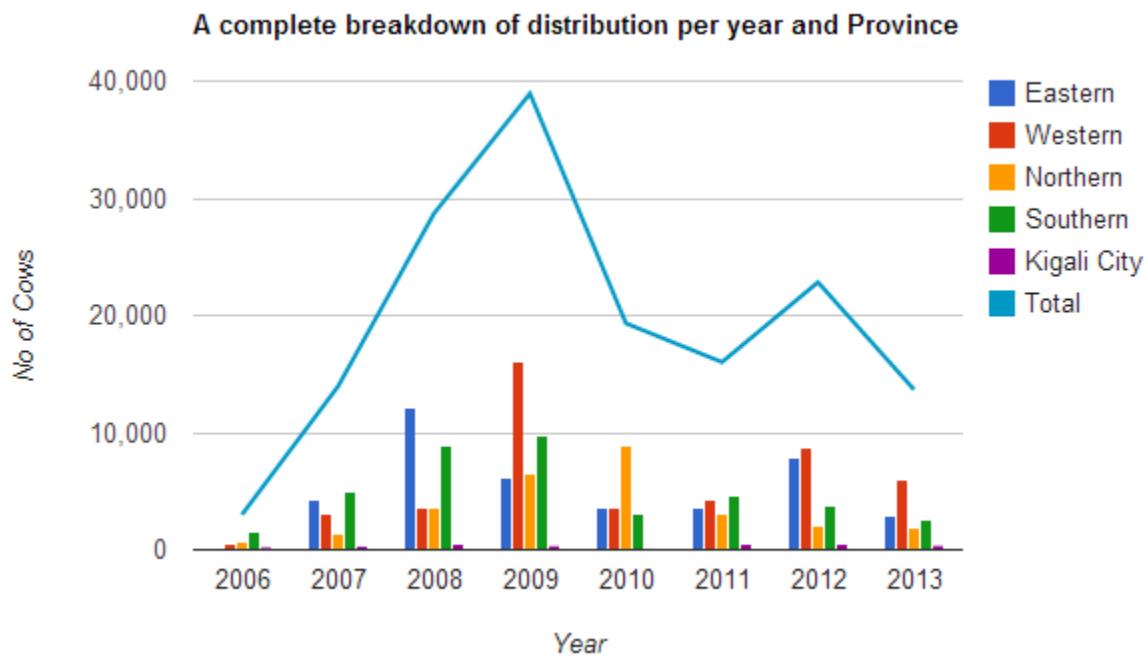
Source: Rwandapedia

1.1BACKGROUND OF ONE COW PER POOR FAMILY

One cow per Poor Family, program commonly known as 'Girinka' provides poor households with a dairy cow. The cow not only supplies milk, which can be an important source of nutrition

and income to families, but also manure, which is a source of fertilizer for crops and biogas for cooking.

UNICEF supports the Government of Rwanda as the lead United Nations agency in the social protection sector to build child-sensitive social protection systems. Its key role, other than influencing policies, helping to set standards, building capacity and model workable programmes, is to support government by filling data and knowledge gaps. While UNICEF does not support the One Cow per Poor Family programme directly, it is helping the government ensure that its targeting mechanisms for all programmes, including One Cow per Poor Family, are child sensitive and take the needs of child- and female-headed households into account.

The Government of Rwanda was initially the sole funder of the Girinka program but development partners have since became involved in the program. This has led to an increase in the number of cows being distributed. Girinka is coordinated by the Rwanda Agricultural Board (RAB), an agency of the Ministry of Agriculture (MINAGRI). RAB is responsible for the selection, certification and distribution of cows

Criteria for inclusion in the program include:

In order to qualify as a beneficiary of Girinka, individuals or households must fit the criteria provided in the program's cabinet approval documents and relevant Ministerial Guidelines. They describe the following conditions:

- The beneficiary must not already own a cow

- The beneficiary must have constructed a cow shed

- The beneficiary must have at least between 0.25 – 0.75 hectares of land, of which some must be planted with fodder

- The beneficiary must be an *Inyangamugayo* (person of integrity) in their community

- The beneficiary must be considered poor by their community and have no other source of income

Beneficiaries who do not have enough land individually may join with others in the community to form a common cow shed (*ibikumba*) for their cows.

The One Cow per Poor Family Program is funded through Government allowances, and through donations. The system includes parameters that require recipients to pass the offspring of their initial cow into others, creating a multiplier effect to maximize and pass on the benefits of the initial investment and ensure a sense of communal responsibility for the success of the Program.

1.2 **Problem Statement**

After seeing that a big number of vulnerable and the poor families, including Rwandan children under age five had moderate chronic malnutrition ,genocide survivors, widows, orphans, people with disabilities and people living with HIV/AIDS, are acquiring productive assets in the form of livestock through the government's 'One Cow Per Poor Family' program.

This program made to increase the economic status of those which most of them are economically vulnerable. As part of efforts to reconstruct Rwanda and nurture a shared national identity, Girinka was initiated in response to the alarmingly high rate of childhood malnutrition and as a way to accelerate poverty reduction.

The program is based on the premise that providing a dairy cow to poor households helps to improve their livelihood as a result of a more nutritious and balanced diet from milk, increased agricultural output through better soil fertility as well as greater incomes by commercializing dairy products.

Since its introduction in 2006 more than 148,000 beneficiaries have received cows. Girinka has contributed to an increase in agricultural production in Rwanda especially milk products which

have helped reduce malnutrition and increase incomes. The present research is conducted to ascertain if the missions assigned to Girinka program are being well performed to reduce poverty and increasing consumption and income mainly in regard to the welfare especially to that poor family.

1.3 Objectives of study

1.3.1 General objective:

The general objective of this study is to analyze the contribution of Girinka program to helping poor family to heighten their social and economic level of life, and to assess if it resulted in positive changes for their conditions of living.

1.3.2 Specific objectives:

➢ To analyze the contribution of" Girinka program" on poverty reduction in Nyamirambo sector.

➢ To see whether the beneficiaries got their advantages ;

➢ To understand the role of" Girinka program" on increasing agricultural productivity through the use of manure as fertilizer

➢ To analyze if " Girinka program" Promoting unity and reconciliation

1.4. Hypothesis

➢ Girinka program contribute to the poverty reduction in Nyamirambo sector
➢ The beneficiaries got their advantages
➢ Girinka program" increasing agricultural productivity through the use of manure as fertilizer
➢ Girinka program Promoting unity and reconciliation

1.5. Scope of the study

The scope of this research restricted to Nyamirambo sector in Nyarugenge district situated in Kigali and it focuses to the analysis on contribution of Girinka program in social economic development start in 2006 up to July 2013.

1.6. Research questions

In order to collect all necessary and requirement information; the research questions have been formulated

 *" Girinka program" contribute to the poverty reduction in Nyamirambo sector?

*Are beneficiaries got their advantages?

*" Girinka program" increase agricultural productivity through the use of manure as fertilizer?

*" Girinka program" Promote unity and reconciliation?

1.7. Significance of the study

- The purpose of this study is to help the leader to know if there is the positive change on this program of poverty reduction.

-Is also helping the government to know if the goal of Girinka program is achieved its objectives or not in Nyamirambo sector.

-The study will be helpful to the future researchers. They will get basic materials which will be useful for police maker of government in Rwanda and around the world.

1.8 The structure of the research

For the purpose of scientific presentation this study is divided into five chapters;

*Chapter one talks about the introductory part, statement of the problem, objectives and the research hypothesis, scope of the study and the structure of the research.

*Chapter two covers the review of relevant literature, highlights the different theories backing the topic under study from different authors.

*Chapter three consists of methodology applied in the research findings, it describes the type of data collected, why and how it was collected and it ought to be analyzed.

*Chapter four takes into account the presentation, analysis and interpretation of the findings.

*Chapter five finally presents the overview of the research, draws conclusions and recommend.

CHAPTER TWO: LITERATURE REVIEW

2.1.   Introduction

This part gives an overall review of existing literature, covers theoretical framework, definitions of key concepts and different theories about them. The overall purpose of this review is to know about the result of studies related to topics under study

185 million children suffer from malnutrition, Among Rwanda's population of 10 million, 81 per cent lives in rural areas. Rural populations have a higher incidence of poverty, with 67.5 per cent of the rural population living below poverty level compared to 14.3 per cent of urban populations (MDG report 2008). Other economic activities growth is stagnant in areas where many of these family live, in many developing countries (areas), populations are growing quickly and other economic activities are growing slowly.

Subsistence farmers, households headed by children and youth, and those without assets and adequate household resources remain not only the poorest, but the most vulnerable to worsening poverty and the occurrence of external shocks such as natural disasters, food insecurity and

economic crises. The widening gap between food production and food needs can erode foreign exchange reserves and raise food prices, both of which hurt the poor and dampen overall economic growth.

Government of Rwanda is under pressure to produce more food for their growing populations and to reduce poverty, it is in that case Government of Rwanda made the program to supporting needy families. Those programs contain vision 2020 and the Economic Development and Poverty Reduction Strategy Papers (EDPRS) as the guiding principles, mechanisms are put in place to evaluate the extent to which a set of objectives aimed at improving the general welfare of Rwandans was met. These objectives are captured in four broad categories: justice, social welfare, good governance, and economic development. This result-oriented exercise pays particular attention to the key issues of public service delivery and accountability, among other measures of socioeconomic progress and competent public accounts management.

Since the promulgation of the new constitution in 2003, Rwanda has made tremendous strides to establish good governance and policies that deliver public services and promote social equity. With its entrance into the East African Community and the Commonwealth of Nations, and with improving relations between Democratic Republic of Congo (DRC) and France, Rwanda is leaving the past behind and embracing new partners and investors to realize its home grown Vision 2020 and its Economic Development and Poverty Reduction Strategy. As a consequence, the government has embraced a broad pro-poor social protection Programme to address poverty and vulnerability amongst the poorest households in Rwanda, one of the key components of which is the "One Cow per Poor Family" Programme (the Girinka Programme).

2.2. Definitions of Key Concepts

2.2.1 How should we define poverty? "Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate

effectively in society. It means not having enough to food and clothing a family, not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living, and not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation" (UN Statement, June 1998).

Poverty reduction is often used as a short-hand for promoting economic growth that will permanently lift as many people as possible over a poverty line. It is any process which seeks to reduce the level of poverty in a community, or amongst a group of people or countries. Poverty reduction programs may be aimed at economic or non-economic poverty. Some of the popular methods used are education, economic development, and income redistribution. Poverty reduction efforts may also be aimed at removing social and legal barriers to income growth among the poor.

2.2.2   What is EDPRS?

The economic development and poverty reduction strategy is at the time a document and the process which defined the objectives of the country, preferences and main policies for the 5years on coming (2008-2012).it causes the way to follow by the government and the different dealers in the development of the country.

Rwanda's Economic Development and Poverty Reduction Strategy (EDPRS) are both a document and a process. As a document, the EDPRS sets out the country's objectives, priorities and major policies for the next five years (2008-2012). It provides a road map for government, development partners, the Private Sector and civil society and indicates where Rwanda wants to go, what it needs to do to get there, how it is going to do it, what the journey is going to cost and how it will be financed. The strategy provides a medium term framework for achieving the country's long term development goals and aspirations as embodied in Rwanda Vision 2020 (Republic of Rwanda, 2000), the seven year Government of Rwanda program, and the Millennium Development Goals (REPUBLIC OF RWANDA; EDPRS Flagship program document, August 2007).

The EDPRS assigns the highest priority to accelerating growth to create employment and generate exports. It will achieve this through an ambitious, high quality public investment program aimed at reducing the operational costs of business. This big push will create strong incentives for the Private Sector to increase its investment rate in subsequent years.

With vision 2020 and the Economic Development and Poverty Reduction Strategy Papers (EDPRS) as the guiding principles, mechanisms are put in place to evaluate the extent to which a set of objectives aimed at improving the general welfare of Rwandans was met.

2.2.3 Household:

A household is classified as either:

(a) A one-person household, that is to say, a person who makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multi-person household;

(b) A multi-person household, that is to say, a group of two or more persons living together who make common provision for food or other essentials of living. The persons in the group may pool their incomes and may, to a greater or lesser extent, have a common budget; they may be related or unrelated persons or constitute a combination of persons both related and unrelated.

2.2.4 Socio-economic development is the process of social and economic development in a society.

Socio-economic development is measured with indicators, such as GDP, life expectancy, literacy and levels of employment. Changes in less-tangible factors are also considered, such as personal dignity, freedom of association, personal safety and freedom from fear of physical harm, and the extent of participation in civil society.

2.2.5 What is the meaning of Girinka program?

The word Girinka can be translated as 'may you have a cow' and describes a centuries old cultural practice in Rwanda whereby a cow was given by one person to another, either as a sign of respect and gratitude or as a marriage dowry.

Girinka was introduced in 2006 against a backdrop of alarmingly high levels of poverty and childhood malnutrition. The results of the Integrated Household Living Conditions Survey 2 (EICV 2) conducted in 2005 showed rural poverty at 62.5%. The Comprehensive Food Security and Vulnerability Analysis (CFSVA) and Nutrition Survey showed that 28% of Rwanda's rural populations were food-insecure and that 24% of the rural populations were highly vulnerable to food insecurity.

The survey showed that in some parts of the country (Bugesera), up to 40% of households were food insecure. The Demographic Health Survey of 2005 indicated that 45% of Rwandan children under age five had moderate chronic malnutrition and 19% had severe chronic malnutrition. At that time, 90% of Rwandans lived in households that own some farming land, and more than 60% of households cultivated less than 0.7 hectares of land, according to the Integrated Household Living Conditions Survey 2 (EICV 2). It was these factors that provided the catalyst for the Girinka program.

Girinka has been described as a culturally inspired social safety net program because of the way it provides a productive asset (a dairy cow) which can provide long-term benefits to the recipient. Approved on 12 April 2006 by cabinet decision, Girinka originally aimed to reach 257,000 beneficiaries; however, this target was revised upwards in 2010 to 350,000 beneficiaries by 2017. The Government of Rwanda was initially the sole funder of the Girinka program but development partners have since became involved in the program. This has led to an increase in the number of cows being distributed.

2.3. Objectives of Girinka program

- Reducing poverty through dairy cattle farming

- Improving livelihoods through increased milk consumption and income generation

- Improving agricultural productivity through the use of manure as fertilizer

- Improving soil quality and reducing erosion through the planting of grasses and trees

- Promoting unity and reconciliation among Rwandans based on the cultural principle that if a cow is given from one person to another, it establishes trust and respect between the giver and beneficiary. (While this was not an original goal of Girinka, it has evolved to become a significant aspect of the program)

2.4. Selection of beneficiaries:

- The selection of beneficiaries is conducted at the community level under the principles of the Ubudehe program whereby the local community meets to decide which members should benefit from Girinka (and other social security programs). The meeting is facilitated by the *umudugudu* (village) leader who draws up a list of all the members the community thinks should receive a cow. The village leader then takes this list to the cell and sector level leaders who are responsible for purchasing and distributing the cows. The beneficiaries must also fit the criteria contained the program's Ministerial Guidelines. These criteria are described under "Beneficiaries".

2.5   Implementation Process

2.5.1   Funding and Donations

- Funding is provided by the Government of Rwanda, non-governmental organizations and private citizens. For example, under the Dairy Cattle Development Support Project (PADEBL), the African Development Fund contributed 8,200 local breed of cattle and 3,000 crossbred cattle to Girinka. The full report of the African Development Fund Livestock Infrastructure Support Program.

- Once the program budget has been allocated in the overall national budget, or donations received, the Rwanda Agricultural Board coordinates purchases of heifers. Efforts to decentralize the program have led to around 40% of the overall Girinka budget being distributed directly to the local government institutions for 2012/2013.

- Private donations are processed through the Rwanda Agricultural Board and are governed by the Ministerial Decentralization Guidelines. In these cases, donors can request their own set of criteria for the heifer, but RAB must certify the cow is healthy before it can be given to a beneficiary.

2.5.2   Selection of cows

- The purchase of cows is done through an open tender process managed by the Rwanda Agricultural Board (RAB) at the national level and by local government at the district level. Before a cow can be purchased from a supplier or accepted as a donation, RAB first conducts a series of veterinary medical examinations to ensure the cow is healthy and appropriate for the program. The Ministerial Guidelines on Cow Purchasing stipulates that the cow must be:

i.   Healthy and free from contagious bovine pleuro-pneumonia and brucellosis.

ii. Physically sound.

iii. Between 18-24 months old and weigh at least 250kgs.

iv. Pregnant or at the age of insemination.

v.   At least 50% of genetic makeup must be from an exotic dairy cow such as a Friesian or Jersey.

Each cow is tested for contagious bovine pleuro-pneumonia and brucellosis and their physiology is examined by RAB. The results are processed by the national laboratory. Where insemination is required, private artificial insemination technicians do this at the local level, some of whom are trained by RAB. Since the beginning of Girinka there has been a phasing out of local cow

varieties and today only the more productive exotic breeds are accepted into the program. This is because those cows produce far greater amounts of milk.

Purchasing cows from Girinka beneficiaries whose original cows have calved down more than once and have completed the 'pass on' aspect of the program is given priority. The local government at the district level is responsible for communicating this to beneficiaries though they are not obligated to sell their cows. Each cow brought into the Girinka program is purchased for at least 300,000 Rwf. Where there are not enough heifers for sale in the local area, suppliers source the cattle from abroad. In these cases, a selection officer from the Rwanda Agricultural Board travels to the country where the cattle are located, takes blood samples and inspects the heifers' physiological status. The samples are then brought back to Rwanda and processed by the national laboratory and all heifers which test negative for diseases and fulfill all other conditions are accepted into the program.

2.6. Funding and implementation

A budget at the central government level is allocated to the Rwanda Agricultural Board (RAB) through the Ministry of Agriculture (MINAGRI), while a separate budget of earmarked funds is allocated directly to the districts (amounting to approximately 40% of the overall program budget). That funding goes towards the purchasing of cows.

The local government at the district level is then responsible for setting up a Girinka Committee responsible for overseeing the local level implementation. Their tasks include the final selection of beneficiaries, overseeing the tender and purchase of the cows, the distribution of cows and ensuring the 'pass on' system as well as other key principles of the program.

The Girinka Committee consists of the following members:

- - District Vice Mayor – Economic Affairs
- - Rwanda Agricultural Board Girinka Program staff:
- o Selection Officer
- o Focal Person
- - Sector and District Veterinary Officers

- - Police Representative

The police representative acts as an impartial member of the committee and is responsible for enforcing the rules and principles of the program. This includes ensuring that cows are distributed to the correct beneficiaries, that only the certified cows are purchased, that beneficiaries do not sell their cows too early and that they 'pass on' the first born female calf.

Below is a list of the government, non-government and other stakeholders involved in the One Cow per Poor Family program.

- Responsible Ministry: Ministry of Agriculture (MINAGRI)

- Coordinating Institution: Rwanda Agriculture Board (RAB)

- Related Government of Rwanda Institutions

*Ministry of Local Government (MINALOC) (representing Districts, Sectors, Cells and Imidugudu/Villages)

*Ministry of Finance and Economic Planning (MINECOFIN)

- Related Government of Rwanda Development Programs

*Ubudehe

The Ubudehe program has funded approximately 60,000 dairy cows, just under half of the cows distributed so far, according to the Country Performance Evaluation Report by IFAD.

*Akarima k'igikoni

*Support Project for the Agricultural Transformation Strategic Plan (PAPSTA)

*Dairy Cattle Development Support Project (PADEBL)

*One Cup of Milk per Child Program

*Milk Consumption Campaign Program

- **NGOs and International Organisations:**

*International Fund for Agriculture Development

*African Development Fund

*Food and Agriculture Organisation

*World Food Program

*Heifer Project International

*Send a Cow Rwanda

*Lutheran World Federation

*SNV

*World Vision

*The Global Fund (in a funding partnership with other NGOs)

Girinka has led to a number of significant changes in the lives of the poorest Rwandans. The impact of the program can be divided into five categories:

- Agricultural Production

- Food Security

- Livestock Ownership

- Health Outcomes

- Reconciliation and Unity

2.7.   Agricultural Production

Girinka has contributed to an increase in agricultural production in Rwanda, especially milk products. Milk production has risen due to an increase in the number of cows in the country and because beneficiaries have received cross breeds with better productive capacity than local cattle species. Between 2000 and 2011, milk production increased seven fold allowing the Government of Rwanda to start the One Cup of Milk per Child program in schools.

Between 2009 and 2011, national milk production increased by 11.3%, rising to 372.6 million liters from 334.7 million liters. Over the same period, meat production increased by 9.9%, according to the Government of Rwanda Annual Report 2010-2011 .The construction of milk collection centers has also increased and by February 2013, there were more than 61 operational nationwide with 25 more due to be completed by mid-late 2013.

Most beneficiaries produce enough milk to sell some at market, providing additional income generation. The manure produced by the cows increases crop productivity, allowing beneficiaries to plant crops offering sustenance and employment as well as a stable income. Girinka has also allowed beneficiaries to diversify and increase crop production, leading to greater food security.

2.8.   Food Security

According to the Comprehensive Food Security and Vulnerability Analysis and Nutrition Survey (CFSVA) conducted in March/April 2012, almost four in five (79%) or about 1,717,000 households had acceptable food consumption and could be considered food secure. Others either had poor food consumption (82,000 households, representing 4% of all households) or borderline food consumption patterns (378,000 households, 17%), adding up to a total of 21% of food insecure households in Rwanda. These figures show a 7% decrease in food insecure households since 2006 at which time the figure was 28% according to the Comprehensive Food Security and Vulnerability Analysis (CFSVA) and Nutrition Survey of 2006. Rwanda's Nyaruguru district mayor François Habitegeko said Rwanda's "Gira inka" (one cow per family) has helped the district, changing the mentality of the local population and reducing malnutrition over the last two years.

According to the research done by Charles K. Nicholson on his book "Dairy cow ownership and child nutrition status in Kenya" by using household data from coastal and highland Kenya, three econometric model formulations are estimated. Positive impacts on chronic malnutrition are observed for coastal Kenya. No negative effects on acute or chronic malnutrition are found.

2.9.   Livestock ownership

The Third Integrated Household Living Conditions Survey (EICV III) of 2012 indicated that 4% of all Rwandan households received a cow under the one-cow per poor family policy. The highest rate was seen in the Eastern Province (7%). Animal production and the integration of livestock into smallholder farming is a key contributor to food security. Animal products are a good source of proteins and lipids and, in times of crisis, livestock functions as a shock absorber, contributing to the resilience of poor households. According to the CFSVA and Nutrition Survey 2012, 70% of all households in Rwanda own some type of livestock. Results of the Third Integrated Household Living Conditions Survey (EICV III) of 2012 showed that in comparison to 2005/2006, higher proportions of households are now able to afford cattle at 47% nationally (up from 34%). The survey also showed that the percentage of livestock-owning households owning cattle increased to 47.3% in 2012, up from 34.4% in 2005/2006.

2.10.   Health Outcomes

While Girinka cannot be credited with single-handedly improving health outcomes across Rwanda, the program has certainly played a part in reducing the level of malnutrition across the population, as well as among children under five. According to the Demographic Health Survey of 2010, the percentage of stunted children fell from 51% in 2005, to 44% in 2010, the percentage of wasted children fell from five percent to three percent and the percentage of underweight children fell from 18% to 11%. Residents testified in News of Rwanda on the success of the program. "The cows (produce) dung which we use as manure for our crops, we get

money through selling milk and our children enjoy an improved diet because of milk," said Josephine Uwodusaba.

2.11. Reconciliation and Unity

Girinka has played a significant role in post-genocide reconstruction in Rwanda. During the colonial period, the cow was used to divide Rwandans along ethnic lines and cattle became a symbol of elitism and a commodity reserved only for a section of the country's people.

This distorted meaning was promoted by successive post-colonial governments as part of divisive and ethnic based policies. According to a report by UNICEF, the 1994 Genocide against the Tutsi saw 90% of the country's cattle killed. It is against this historical background, whereby cows were mostly considered as only for the elite in society, that Girinka was introduced.

Girinka has shifted what it means to own cattle in Rwanda. While the symbolism of prosperity is still attached to the cow, by giving cattle to the poorest in society, the program has helped to end the divisive perception surrounding owning cattle. The 'pass on' component of Girinka, whereby a recipient gifts the first born calf to a neighbour, has helped to rebuild social relationships destroyed during the 1994 Genocide against the Tutsi. This is because the giving of a cow to someone or '*Gutanga Inka*', translated as 'sealing a bond of friendship' remains a cultural practice owned, understood and valued by Rwandans.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the methodological approach, the data collection techniques and the entire process that will used to conduct the study. It gives the study design, the population, and sample size, sampling techniques, sources of data, and it further spells out how the information was

obtained from respondents, analyzed and interpreted to enable the researcher to draw logical conclusions.

3.2   Research design

Under this study the research adopted a case study because we wanted to make deep investigation on the contribution of Girinka program on poverty reduction in Rwanda case of Nyamirambo sector.For the purpose of this study, the survey method was adopted. Qualitative and quantitative data collection techniques will be used to bring together the required data, and a multiple regression will be performed for data analysis.

3.3   Case study

The researcher picked out interest to carry out this research on the beneficiaries of Girinka program in Nyamirambo Sector, (Nyarugenge District, and Kigali city) in order to check the contribution of Girinka program in poverty reduction.

3.4   Sources of Data

According to the topic, research questions and hypothesis both primary and secondary sources of data are crucial to "A Source is one of the materials the researcher uses for collecting information during the investigation", the researcher should rely on them when they are available because they are first hand observations and investigations.

3.4.1 Primary data

For this study, primary sources that have been used by researcher consisted in questionnaires, interviews and where necessary direct observations. The researcher used questionnaires to interview the chief of the household who is a beneficiary of Girinka program and selected in the sample.

3.4.2 Secondary data

Secondary data analysis saves time that would otherwise be spent collecting data and particularly in the case of quantitative data. Some documents concerning the study will be consulted. Therefore, textbooks, dissertations, official and unofficial reports will be consulted.

3.5`   Sample size

Since it is difficult for a researcher to take the whole population for participation in the study, a sample will be drawn from population. As the population target for this research is the families which have the cow located in Nyamirambo sector , and that sector have four cells; thus the researcher uses these cells as the strata and then from that sector contains 130 families.

The formulas of determining sample size for the proportion

$$n_{max} = Z^2(1-\alpha)P(1-P)/E^2$$

Let n is the sample size

Z = confidence level =95%=1.96

E= Tolerated margin error =10%

P=is the proportion=50%

α= Significance level =5%

We are going to use stratified systematic random sampling, then for calculating the sample size of each stratum .We prefer using proportionate allocation because we need to get the proportion of every stratum in the total sample size.

$$n_{max} = Z^2(1-\alpha)P(1-P)/E^2$$

$$= (1.96)^2 {}_* 0.5(1-0.5)/ (0.1)^2 = 96$$

$$f = n/N_T = 96/130 = 0.73$$

$$n' = n/(1+f) = 96/(1+0.73) = 56$$

The simple random sampling was used to select final elements proportionally to the size of each stratum (cells) to form a set of 56 families as our sample.

The precision and cost of a stratified design is influenced by the way that sample element are allocated to strata

One approach is proportionate stratification. With proportionate stratification the sample size of each stratum is proportionate to the population size of the stratum. Strata sample sizes are determinate by the following equation

$$\textbf{Number in sample for each stratum} = \frac{\textbf{Population of a strata}}{\textbf{Total population}} * \textbf{sample size}$$

Stratum	Population of a strata(Nh)	Total population(N)	Sample size(n')	$n=\frac{Nh*n'}{N}$
Rugarama	52	130	56	23
Gasharu	73	130	56	31
Mumena	3	130	56	1
Cyivugiza	2	130	56	1

3.6. Data collection

As already mentioned, the study uses both primary and secondary sources of data to collect all the data about the topic of the research. The different techniques which shall be used to collect all data for this study are;

3.6.1 The questionnaire technique

The questionnaires survey will be answered with the persons who are the beneficiaries of Girinka program to get all information.

3.6.2 Computer programs

The whole work of data entry and data analysis was done with the help of computer programs. One search program that was used extensively in the study is SPSS and Excel. The choice of this program is constrained by the availability of programs and the appropriateness to handle the task at hand. That program is chosen because there is appropriate for this kind of research and can handle the estimations envisaged.

3.7 Processing and Analyzing Data

Processing and analyzing data involves a number of closely related operations which are performed with the purpose of summarizing the collected data and organizing these in a manner that they answer the research questions (objectives).

3.7.1 Data Processing

Data processing is concerned with classifying responses into meaningful categories called codes. Data processing is link between data collection and data analysis. It involves the transformation of these categories into codes and amenable to quantitative analysis and tabulation, the data collected are transformed into meaningful information for easy interpretation and understandable pattern.

The Data Processing operations are:

1. Data entry: is the act of transcribing some form of information into another medium, usually through input into a computer program. Forms of data that people might transcribe include handwritten documents.

2. Editing: a process of examining the collected raw data to detect errors and omissions and to correct these when possible.

3. Classification: a process of arranging data in groups or classes on the basis of common characteristics.

In this study, after getting the data collected, all those operations of data processing will be performed by using SPSS (Statistical Package for Social Sciences).

3.7.2 Data Analysis

- The researcher will use excel and SPSS in analyzing and presenting the data for this study, simple percentages, tabulation and cross-tabulation will be used.

-Generate graphs by using Excel

-<u>Regression models and various tests</u>

In analyzing and presenting the data for this study, we will use multiple regression analysis and Analyze of variance (ANOVA) were performed on the different variables.

The purpose is to estimate and fit a structure model to explain variation in the observation of Y (per year average income generated from farmers) in terms of independent variables X_i (benefits derivable from beneficiaries of Girinka program earlier). Thus for this study, the regression model is of the form;

$$Y = a + b_1x_1 + b_2x_2 + \ldots + b_nx_n + e \; ;$$

Where Y is yearly average income generated from farmers (as a surrogate measure of poverty reduction) while $\mathbf{X_1, \ldots X_n}$ are the benefits, $\mathbf{a, \ldots b_n}$ are intercept and slopes term, and $\mathbf{e}$ is the error term.

There are four parts to the ANOVA table: sums of squares, degrees of freedom, mean squares, and the F statistic. Sums of squares are actually sums of squared deviations about a mean. For the ANOVA table, we are interested in the Total sum of squares (SST), the regression sum of squares (SSR), and the error sum of squares (SSE; also known as the residual sum of squares).

$$SST = \sum_{j=1}^{N} (y_j - \bar{y})^2 = SSR + SSE$$

$$SSR = \sum_{j=1}^{N} (\hat{y} - \bar{y})^2 = SST - SSE$$

$$SSE = \sum_{j=1}^{N} (y_j - \hat{y}_j)^2 = \sum_{j=1}^{N} e_j^2 = SST - SSR$$

The rest of the ANOVA table easily follows (K = number of predictors, not counting the

constant):

Source	SS	DF	MS	F
Regression (or explained)	SSR	K	MSR = SSR/K	F =
Error (or residual)	SSE	N - K – 1	MSE =	
Total	SST	N – 1	MST = SST/(N - 1)	

Statistically, it is equivalent to testing the null hypothesis that the relevant regression coefficient is zero. We reject the null hypothesis when the F calculated > F table.

In this research ANOVA model is used to compare the means of income before and after this program to see whether the difference is significant or not.

INSTITUT D'ENSEIGNEMENT SUPERIEUR DE RUHENGERI
B.P.155, Ruhengeri, Rwanda
T: +250 546514, F: +250 546500, W : www.ines.ac.rw, E: inesruhengeri@yahoo.fr
Faculty of fundamental applied science
Department of statistics applied to economic

PEDAGOGY SURVEY 2013

SURVEY ON EVALUATION OF THE CONTRIBUTION OF GIRINKKA
PROGRAM ON SOCIAL ECONOMIC DEVELOPMENT

QUESTIONNAIRE FOR THE STUDENTS

A. IDENTIFICATION OF INTERVIEWER
UMWIRONDORO W'UBAZA

N^O	QUESTION/VARIABLE	ANSWER
A$_1$	No of questionnaire	N^o / / /
A$_2$	Date	dd/mm/yy./ / / /
A$_3$	Enumerator's name	
A$_4$	Supervisor's name	
A$_5$	Investigator'name	

B. IDENTIFICATION OF INTERVIEWEE

UMWIRONDORO W'UBAZWA

N^O	QUESTION/VARIABLE IBIBAZO	ANSWER IBISUBIZO
B$_1$	Name Izina	1.First name: 2.Surname:
B$_2$	Sex Igitsina	1.M 2. F Gore/ / Gabo/ /
B$_3$	Year Imyaka	
B$_4$	Province/City Intara/Umujyi	
B$_5$	District Akarere	
B$_6$	Sector Umurenge	
B$_7$	Cell Akagari	
B$_{8a}$	Nationality Ubwenegihugu	1.Rwandan 2.other Umunyarwanda / / Ubundi / /
B$_9$	In which economic category are you included? Uri mu kihe cyiciro	1. / /, 2. / /, 3. / /, 4. / /

C. IBIBAZO BIJYANYE N'UMWOROZI

N^O	IBIBAZO	IBISUBIZO
C$_1$	Have you received a cow in Girinka program? Wahawe inka muri gahunda ya girinka?	1. Yes 2. No Yego/ / Oya/ /
C$_2$	If yes when did you receive it? Wayakiriye ryari?	
C$_3$	Have you still that cow? Uracyafite iyo nka?	1.Yes 2.No Yego/ / Oya/ /
.C$_4$	If not,where is it now? Niba ari oya, Yagiye he?	

C_5	Has that cow bred? Iyo nka yarabyaye?	1.Yes 2.No Yego/ / Oya/ /
C_6	If yes, how many times has that cow bred Niba ari yego iyo nka yabyaye Kangahe?	
C_7	Is it producing milk? Irakamwa?	1.yes 2.No Yego/ / Oya
C_8	If yes, how many liters does it produce per day? Niba ar yego, ikamwa litiro zingahe ku munsi?	
C_9	What is the quantity of manure produced per year? Ubona ifumbire ingana iki mu mwaka(kg)?	

C_{10}	What is destination of manure?
	Ifumbire ubona uyikoresha iki?
		a. In agriculture
		   Nyikoresha mu buhinzi
		b. I sell it
		   Ndayigurisha
		c.other(mention it)
		   Ikindi(ukivuge)

C_{11}	What is the wage do you grant to cow keeper per month? Abakozi bita ku nka ubishyura amafaranga angana iki ku kwezi?	
C_{12}	How much money do you spend on pasture per month? Ibiryo by'amatungo ubitangaho amafaranga angina iki ku kwezi?	
C_{13}	How much money do you spend per month on desease treatment by vet? Utanga amafaranga angana iki mu kwezi mu kuvuza inka?	
C_{14}	Is there usefulness drawn in cow owning? Ubona hari icyo iyo nka ikumariye?	1.yes 2.No Yego/ / Oya/ /
C_{15}	If yes mention them Niba ari yego, ikumariy e iki?/	
C_{16}	What are the challenges do you face in cow breeding? Ni izihe ngorane uhura nazo mukorora iyi nka	
C_{16}	What do you want for making your breeding effective? Ni iki wifuza ko cyakorwa kugirango ubworozi bwawe bugende neza?	